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09/246,612	02/08/1999	JAMES MCCORMICK	1400.9801020	6382

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EXAMINER

TANG, KENNETH

ART UNIT	PAPER NUMBER
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2127

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16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. 09/246,612		Applicant(s) MCCORMICK ET AL.	
Examiner Kenneth Tang		Art Unit 2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-39 are presented for examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1- 39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term “unfavorably” is indefinite because it does not specify in those claims whether “unfavorably” means above or below the threshold.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 1-8, 14-18, 22-27, 32-36, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gehi et al. (hereinafter Gehi) (US 6,134,216) in view of IBM Technical Disclosure (Vol. 34, No. 9, February 1992).**

2. As to claim 1 Gehi discloses a method consisting of the following:

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- receiving plurality of call signaling messages (*call signaling messages, col 2, lines 47-51, "message processor", Fig. 1, item 10*);
- Comparing queue occupancy level with first threshold ($S(n)$ compared against threshold $X[\max, I]$, col 4, lines 24-49, "overload is measured through the use of a control parameter such as the occupancy of a control processor or the number of entries in a queue of a module of the system", see Abstract);
- When occupancy level compares unfavorably with threshold, enqueue call signaling messages into processing queue based on type of call signaling messages (*level is changed to be at level (i+1) over the upcoming interval, col 4, lines 24-49*);
- Call processing ("*call processor*", Fig 1, 20, and processor, col 8, lines 28-57);
- Processing module (*modules, processor, col 9, lines 20-30, "network module", Fig. 1, item 30*).

However, Gehi fails to explicitly teach enqueueing the messages based on its type. IBM teaches a message queue communication system having messages enqueued based on their type ("*enqueued message types*" and "*message of the corresponding type to be enqueued*", page 170, paragraph 2). It would have been obvious to one ordinary skill in the art at the time the invention was made to include the feature of enqueueing call signaling messages based on its type to the existing system of Gehi in order to increase selectivity of the contents in the processing queue.

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3. As to claim 2, Gehi in view of IBM fails to explicitly teach using dispensable and indispensable as type of call signaling messages. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a dispensable type of message to the existing system of Gehi and IBM for the reason of maximizing the communication efficiency by minimizing wasteful communication resources.

4. As to claims 3, Gehi in view of IBM fails to explicitly teach the following:

- a) when message is dispensable, delete the previous dispensable message;
- b) enqueueing new message when previous one is deleted;
- c) enqueueing message into queue when message is indispensable.

5. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a) and b) to the existing system of Gehi and IBM for the reason of deleting the old values and adding the new values to the queue for updating/cleanup reasons. In addition it would have been obvious to one of ordinary skill in the art at the time the invention was made to include c) to the existing system of Gehi and IBM for the reason of replacing the dispensable messages with indispensable ones.

6. As to claim 4, Gehi in view of IBM fails to explicitly teach dropping the call signaling message if the previous dispensable one does not exist. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature to the existing system of Gehi and IBM for the reason of increasing efficiency by removing wasteful resource material.

7. As to claim 5, Gehi in view of IBM discloses a method consisting of the following:
 - Comparing queue occupancy level with second threshold (*compared against threshold $X[\min, I]$, col 4, lines 24-49*);
 - When occupancy level compares unfavorably with threshold, dequeue call signaling messages into processing queue based on type of call signaling messages (*level is changed to be at level (I-1) over the upcoming interval, col 4, lines 24-49, "overload is measured through the use of a control parameter such as the occupancy of a control processor or the number of entries in a queue of a module of the system", see Abstract*)).
8. Gehi in view of IBM fails to explicitly teach the following:
 - a) when message is dispensable, delete the previous dispensable message;
 - b) enqueueing new message when previous one is deleted;
9. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a) and b) to the existing system of Gehi and IBM for the reason of deleting the old values and adding new values to the queue for updating/cleanup of the queue.
10. As to claim 6, it is rejected for the same reasons as stated in the rejection of claim 4.
11. As to claim 7, it is rejected for the same reasons as stated in the rejection of claim 3.
12. As to claim 8, it is rejected for the same reasons as stated in the rejection of claim 4.

13. As to claim 14, it is rejected for the same reasons as stated in the rejection of claim 1.
14. As to claim 15, it is rejected for the same reasons as stated in the rejection of claim 2.
15. As to claim 16, it is rejected for the same reasons as stated in the rejection of claim 3.
16. As to claim 17, it is rejected for the same reasons as stated in the rejection of claim 5.
17. As to claim 18, Gehi in view of IBM fails to explicitly teach dropping the call signaling message if the previous dispensable one does not exist. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature to the existing system of Gehi and IBM for the reason of increasing efficiency by removing wasteful resource material. In addition, Gehi in view of IBM fails to explicitly teach enqueueing the message when the previously indispensable one is deleted. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of enqueueing the new message for the reason of adding the new values to the queue for updating reasons.
18. As to claim 22, it is rejected for the same reasons as stated in the rejection of claim 1.
19. As to claim 23, it is rejected for the same reasons as stated in the rejection of claim 2.

20. As to claim 24, it is rejected for the same reasons as stated in the rejection of claim 3.
21. As to claim 25, it is rejected for the same reasons as stated in the rejection of claim 1.
22. As to claim 26, it is rejected for the same reasons as stated in the rejection of claim 18.
23. As to claim 27, it is rejected for the same reasons as stated in the rejection of claim 4.
24. As to claim 32, it is rejected for the same reasons as stated in the rejection of claim 1.
25. As to claim 33, it is rejected for the same reasons as stated in the rejection of claim 2.
26. As to claim 34, it is rejected for the same reasons as stated in the rejection of claim 3.
27. As to claim 35, it is rejected for the same reasons as stated in the rejection of claim 5.
28. As to claim 36, it is rejected for the same reasons as stated in the rejection of claim 3.
29. As to claim 39, Gehi in view of IBM fails to explicitly teach using at least one of FIFO and LIFO. However, it would have been obvious to one of ordinary skill in the art at the time the

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invention was made to include this feature to the existing system of Gehi and IBM because it is well-known that a queue can either operate as FIFO or LIFO.

30. Claims 9-10, 28, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gehi (US 6,134,216) in view of IBM, and in further view of Holmes (US 5,999,969).

31. As to claims 9, Gehi teaches decreasing the overhead level in a queue when appropriate overload control action of each module is needed (see Abstract) Gehi in view of IBM fails to explicitly teach doing this by dequeuing messages from the call processing queue. Holmes teaches using a message dequeue operation (*col 25, lines 21-25*) with a message queue as a call processing queue (*message queues, col 7, lines 35-37*). However, Holmes fails to explicitly teach doing this in a sustained overloading condition. Moreover, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature to the existing system of Gehi and IBM for the reason of preventing a burst of overhead data and to stay under the switch's capacity (sustaining overload condition).

32. As to claim 10, Gehi in view of IBM fails to explicitly teach using at least one of FIFO and LIFO. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature to the existing system of Gehi and IBM because it is well-known that a queue can either operate as FIFO or LIFO.

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33. As to claim 28, Gehi teaches decreasing the overhead level in a queue when appropriate overload control action of each module is needed (see Abstract) Gehi in view of IBM fails to explicitly teach doing this by dequeuing messages from the call processing queue. Holmes teaches using a message dequeue operation (*col 25, lines 21-25*) with a message queue as a call processing queue (*message queues, col 7, lines 35-37*). However, Holmes fails to explicitly teach doing this in a sustained overloading condition. Moreover, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature to the existing system of Gehi and IBM for the reason of preventing a burst of overhead data and to stay under the switch's capacity (sustaining overload condition).

As to claim 31, it is rejected for the same reasons as stated in the rejection of claims 9 and 10.

34. Claims 11-13, 19-20, 29-30, and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gehi in view of IBM in further view of Baldwin (US 6,310,952).

35. As to claim 11, Gehi and IBM fail to explicitly teach maintaining a plurality of dequeuing lists that track the following:

- locations in the call processing queue;

Baldwin teaches keeping track of that caller's location in a call queue (*col 4, lines 62-67*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature of tracking the location to the existing system of Gehi and IBM

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for the reasons of having a “pointer” in the queue so comparisons can be made towards the threshold to determine when there is sustained overloading.

36. The system of Gehi, IBM and Baldwin fail to teach tracking the following:

- an ordered list of types of calling signaling messages;
- an ordered list of dispensable messages;
- an ordered list of indispensable messages;

37. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include having types of calling signaling messages to the system of Gehi, IBM, and Baldwin for the reason of increasing selectivity of the contents in the processing queue. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a dispensable type of message to the existing system of Gehi and IBM for the reason of maximizing the communication efficiency by minimizing wasteful communication resources. In addition, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include indispensable messages for the reason of having more message types for selectivity.

38. As to claim 12, Gehi in view of IBM fails to explicitly teach updating the plurality of dequeuing lists when the enqueueing changes occur. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this updating feature to the existing system of Gehi and IBM for the reason of improving accuracy and organization.

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39. As to claim 13, Gehi in view of IBM fails to explicitly teach using at least one of FIFO and LIFO. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature to the existing system of Gehi and IBM because it is well-known that a queue can either operate as FIFO or LIFO.

40. As to claim 19, it is rejected for the same reasons as stated in the rejection of claim 11.

41. As to claim 20, Gehi in view of IBM fails to explicitly teach updating the plurality of dequeuing lists when the enqueueing changes occur. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this updating feature to the existing system of Gehi and IBM for the reason of improving accuracy and organization.

42. As to claim 29, it is rejected for the same reasons as stated in the rejection of claim 11.

43. As to claim 30, Gehi in view of IBM fails to explicitly teach updating the plurality of dequeuing lists when the enqueueing changes occur. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this updating feature to the existing system of Gehi and IBM for the reason of improving accuracy and organization.

44. As to claim 37, it is rejected for the same reasons as stated in the rejection of claim 11.

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45. As to claim 38, Gehi in view of IBM fails to explicitly teach updating the plurality of dequeuing lists when the enqueueing changes occur. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this updating feature to the existing system of Gehi and IBM for the reason of improving accuracy and organization.

46. **Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gehi (US 6,134,216) in view of IBM, in further view of Baldwin (US 6,310,952), and in further view of Holmes (US 5,999,969).**

47. As to claim 21, Gehi teaches decreasing the overhead level in a queue when appropriate overload control action of each module is needed (see Abstract) Gehi in view of IBM fails to explicitly teach doing this by dequeuing messages from the call processing queue. Holmes teaches using a message dequeue operation (*col 25, lines 21-25*) with a message queue as a call processing queue (*message queues, col 7, lines 35-37*). However, Holmes fails to explicitly teach doing this in a sustained overloading condition. Moreover, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature to the existing system of Gehi and IBM for the reason of preventing a burst of overhead data and to stay under the switch's capacity (sustaining overload condition).

Response to Arguments

48. *Applicant argues on page 3, 2nd paragraph and page 7, 1st paragraph, that Gehi fails to disclose "enqueueing the plurality of call signaling messages into the call processing queue based*

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on types of call signaling messages because the S(n) of Gehi does not constitute a queue occupancy level.

49. In response, Examiner respectfully disagrees. Gehi teaches that S(n) is a filtered version of X(n) and they are both queues (col. 4, lines 10-49, and col. 9, lines 20-30). Gehi also teaches that “the overload is measured through the use of a control parameter such as the occupancy of a control processor or the number of entries in a **queue** of a module of the system” (*see Abstract*). Therefore, teaches that the entries involving overload are contained within a queue data structure. Gehi teaches that measurements such as queue length are taken (“queue length”, col. 2, lines 64 and 65, and col. 9, lines 27-28). It is well known to one of ordinary skill in the art that entries can be added to a queue, called enqueueing. In addition, it is well known that entries can be subtracted to a queue, called dequeueing.

50. *Applicant argues on page 4, 1st paragraph, that since Gehi fails to teach “enqueueing the plurality of call signaling messages into the call processing queue based on types of call signaling messages,” no such motivation would have existed to combine the cited reference.*

51. In response, Examiner respectfully disagrees. IBM also teaches a message queue processing system and is therefore in the same field of endeavor.

52. *Applicant argues on pages 5-9 that there is no support in the specification or drawings to support the motivation to combine Gehi with IBM.*

53. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves **or in the knowledge**

generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (703) 305-5334. The examiner can normally be reached on 8:30AM - 7:00PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (703) 305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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